



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,504	11/21/2003	Shuichi Miura	117803	7615

25944 7590 12/20/2005

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

THOMAS, JAISON P

ART UNIT	PAPER NUMBER
----------	--------------

1751

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,504

Applicant(s)

MIURA, SHUICHI

Examiner

Jaison P. Thomas

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/21/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/21/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Specification***

The disclosure is objected to because of the following informalities: On pg. 13, line 11 of the specification refers to "polyvinyl group resin" where polyvinyl is misspelled. On pgs. 13-14, beginning on line 26, the specification refers to an "antistaic agent" where antistatic is misspelled. Appropriate correction is required.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 505, on pg. 22, line 10 of the Specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 1751

Claim Rejections - 35 USC § 112

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims fail to clarify whether the limitations recited immediately following the first reference of "metal oxide particle" (e.g. Claim 1, line 4 "which has an average particle size of 5 to 60 nm and a melting point of 1500°C or higher ...") apply to the metal or metal oxide particles. For purposes of examination limitations were applied to metal oxide particles. Applicant is suggested to amend as follows: -- ... metal oxide particle wherein said metal oxide particle has an average particle size of 5 to 60 nm and a melting point of 1500°C or higher ...--

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki (4,696,764).

Yamazaki teaches a electrically conductive adhesive composition using both "abrasive grain-like electrically conductive particles" which include particles

Art Unit: 1751

of nickel and nickel alloy (refer to table in Column 5) as well as "electrically conductive fine particles" where particle diameters "in the range of 10^{-4} to 0.5 micrometer may be used" (refer to Column 5, line 55). These fine particles include tin oxide (refer to table in Column 6). Note tin oxide has a melting point of 1630°C. Also Yamazaki teaches usage of the fine particles in the weight ranges of 0.2 to 20% "preferably 1 to 15% by weight" (refer Column 6, lines 20-21). Yamazaki further teaches the use of a resin and a solvent for the resin wherein the disclosed "electrically conductive particles" are "incorporated and dispersed" in the resin (refer Column 21, lines 21-45). Yamazaki also teaches "fine particles" with the same size ratios to the "abrasive grain-like electrically conductive particles" as described in Claim 3. The weight range limitation of Claim 4 has been discussed above and the tin oxide particles disclosed in Yamazaki possess BET values and the melting points required of Claim 4. All claim limitations of Claim 5 have been discussed above. With respect to Claim 6, the tin oxide particles and nickel particles disclosed in Yamazaki possess the BET ratios required in Claim 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1751

Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki.

Yamazaki is relied upon as set forth above.

Yamazaki does not specifically teach the use of the conductive composition on a ceramic substrate.

However, Yamazaki does disclose a composition that uses enough solvent and base resin "required to form said composition into the state of a printing ink or a paint" (refer Column 10, lines 41-44). Thus it would be obvious to one of ordinary skill in the art to use Yamazaki's conductive composition in coating applications to coat different types of substrates, including ceramic materials, to create a conducting ceramic similar to one disclosed in Claim 7. The use of ceramic substrate materials is notoriously well known in the art and does not patentably distinguish over the prior art of record.

Allowable Subject Matter

Claims 8 and 9 are allowable over the prior art of record. Yamazaki does not teach the ceramic compositions used in Claims 8 and 9 with metal oxides displaying the particle sizes and BET values that are stated in the claims. Note also that applicant has shown by direct comparative examples that the claimed ceramic electronic components yield unexpected/superior results as compared to compositions outside the scope of the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ueyama (4,493,789) discloses an electroconductive paste

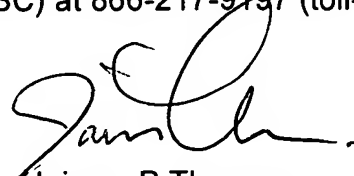
Art Unit: 1751

that utilizes the same metal oxides as those claimed by the applicant. However, Ueyama does not teach the use metal oxide particles of such small size nor does Ueyama use the same metal particles that applicant has disclosed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jaison P Thomas
Examiner
Art Unit 1751



Mark Kopec
Primary Examiner